

Science at home: **Plant Growth**

Blurb: We know that plants need to be watered and in the sun in order to grow but does it matter what you grow your plants in? That is what we are going to look at this week. You will be investigating the effect of changing what a seed grows in. Hopefully you will be able to compare your germinating seeds at the end of the week to see if the soil or one of the other materials has resulted in the best germinating seed.

Task 1

Read through the method given for this investigation and complete the project booklet using your scientific enquiry knowledge. If you are unsure you can go back to the scientific enquiry skills power point or contact your teacher.

Task 2

If possible, watch the video of a President Kennedy teacher completing the practical.

Task 3

If you want to you can do this experiment at home.

Task 4

Send your completed work to your teacher and if you want a picture of yourself having completed the project. You can find all the email address below.

Teacher contact information

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Hypothesis

Changing the medium in which a seed grows will affect how tall the plant can grow.

Method

1. Place the 1g of material in each pot. One pot can be left without any material.
2. Wet the material in each pot with two teaspoons of water and then pour off any excess water.
3. Add two seeds to each pot.
4. Cover the top of the pot with cling film to keep the material moist.
5. Pock two small holes in the sling film using the cocktail stick.
6. Leave for one week then measure the growth of the plants using a ruler.
7. Record their results in the table.
8. Repeat each material 3 times and calculate an average.

Suggested materials

- Nothing
- Soil
- Cotton wool
- Paper
- Kitchen roll

Prediction

Write your prediction for this experiment

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Variables

What was the independent variable?

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What was the dependent variable during the investigation?

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State 2 things the scientists should **control** in order to produce a valid experiment.
Suggest how you would control these variables.

<u>Control variable</u>	<u>How can this be controlled</u>

Risk assessment

Complete this risk assessment for the suggested experiment

Hazard	Risk	Prevention	Remedial action

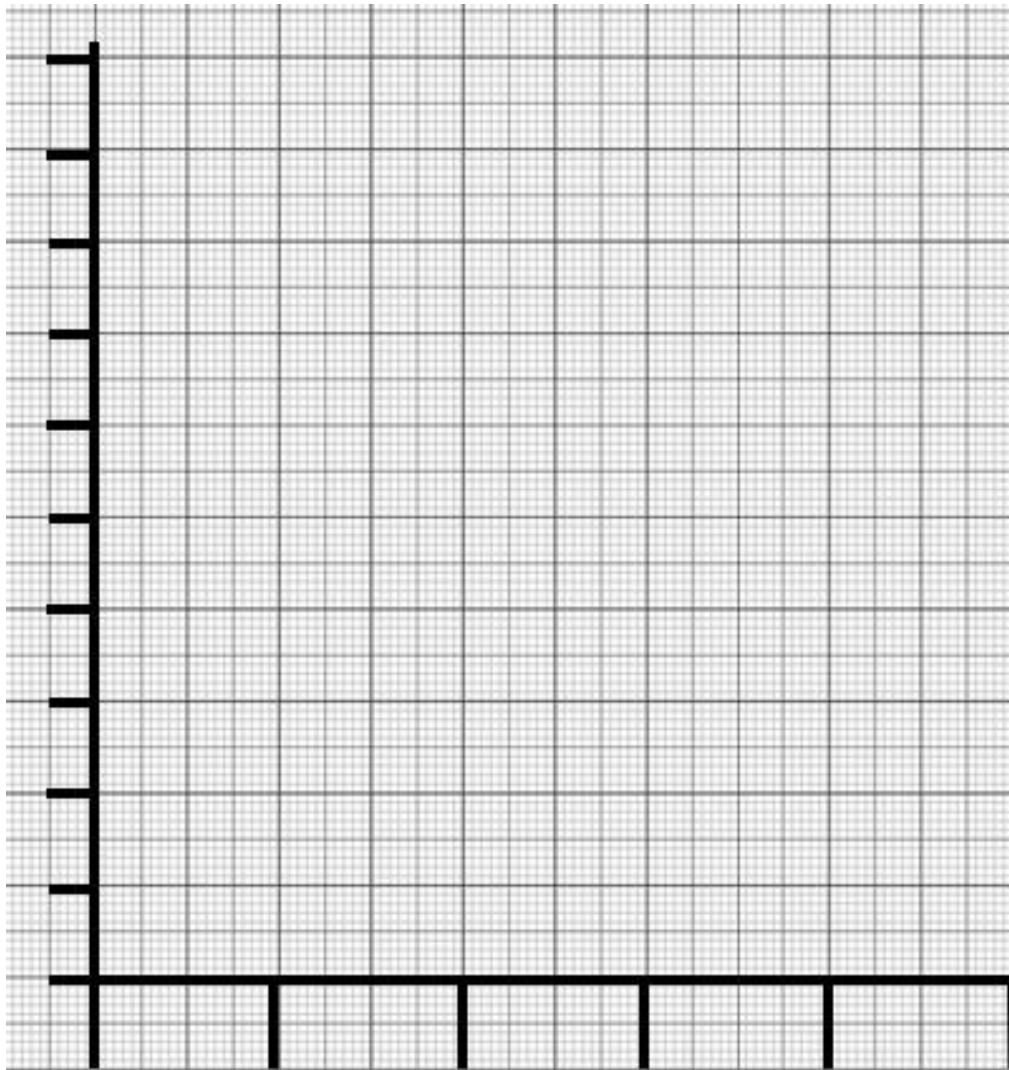
Results table

Calculate the average.

Material	Growth in after 1 week (mm)			
	Repeat 1	Repeat 2	Repeat 3	Average
Nothing	0	0	0	
Soil	39	36	45	
Cotton Wool	10	9	8	
Paper	20	18	19	
Kitchen roll	14	18	16	

Graph

Plot a graph of the different materials and how much they grew (mm) after one week.



Conclusion

Describe and explain the patterns shown in the graph. Remember to use data in your answer.

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Evaluation

1. How could the scientist improve the accuracy of his results?

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2. How could the scientist improve the reliability of his results?

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